ADDENDUM NO. 2

TO: PLANS AND SPECIFICATIONS FOR STATE OF MISSOURI

HVAC & BAS Replacement
Waverly Regional Youth Center
Waverly, Missouri
PROJECT NO. H2314-01

Bid Opening Date is: 1:30 PM, Thursday, October 31st, 2024 (UNCHANGED)

Bidders are hereby informed that the Construction Plans and/or Specifications are modified as follows:

SPECIFICATION CHANGES:

1. ADD Section 012300 3.1 A.1.a as follows:
    a. Davit crane shall be similar or equal to Tele-Pro Telescopic Davit Crane model OZTP2500DAV as manufactured by OZ Lifting Products. Crane shall include the following features:
        i. Telescoping boom adjustment while under load
        ii. Ratchet screw jack adjusts boom under load
        iii. 360 degree rotation of crane on sleeve bearing
        iv. DIN-Rated hand winch equipped standard with a load holding weatherproof Weston brake (Cable assembly sold separately)
        v. Quick connect winch handle with power drill adapter included
        vi. Smart Latch technology at boom/mast connection
        vii. Corrosion resistant zinc plated finish
        viii. AC power winch available and sold separately
        ix. Made in USA
        x. 500 pound lifting capacity
2. ADD Section 015000 2.2 G.a as follows:
    a. Temporary office trailer of adequate size for 6-8 WRYC staff offices during various phases of construction. Contractor to provide heated/cooled space for staff to operate regular daily operations. To include data and restroom. Location to be determined at pre-construction meeting.
3. ADD Specification Section 230130.52 Existing HVAC Air Distribution System Cleaning, in its entirety.
4. Section 237416.11 1.9.A: Add CaptiveAire to the list of approved manufacturers.
5. Section 237416.13 2.2.A: Add CaptiveAire to the list of approved manufacturers.
6. Section 237416.11 and Specification Section 237416.13: Rooftop units shall be provided with factory controllers with BACNET interface.
7. Section 230923 2.1.A: Add Honeywell and Trane to the list of approved manufacturers.

DRAWING GHANGES:

1. REPLACE Sheet A110 in its entirety
    a. Revised to show designated storage areas for the contractors to use during construction
2. Sheet A310, Detail 4 – ADD note as follows:
    a. Scope shown in detail is to be included in Base Bid.

3. Sheet A701 – REVISE Ceiling Plan Note 7 as follows:
    a. Patch openings in existing plaster ceilings and walls.
4. Sheet M001 – REPLACE all instances of AHU-6 with AHU-5
5. Sheet M101 – REPLACE in its entirety.
    a. Control notes were revised.
6. Sheet A-701: Mechanical and Storage rooms add note as follows:
    a. Existing penetrations in the ceilings and walls shall be patched as needed.
7. Sheet M-001: ADD note as follows:
    a. Provide space for 6-8 staff, climatized, with data and restroom for the duration of phases in which staff will need to be relocated.
8. Sheet A-121: ADD note as follows:
    a. Greenhouses to be relocated by Owner.

GENERAL COMMENTS:

1. The Pre-Bid Meeting was held October 17th, 2024 followed by a walk-through of the site. The Pre-Bid Meeting sign-in sheet is included in Addendum No. 1.
2. Bidders needing additional site inspection should contact Michael Moore at 573-645-1093 or Michael.moore@oa.mo.gov to schedule a time. A confirmation of the date and time will also need to be sent to Jeremy Freeman (jeremy.freeman@oa.mo.gov) as well as Jared Cook (jared.cook2@oa.mo.gov).
3. Please contact April Howser, Contract Specialist, at 573-751-0053 or april.howser@oa.mo.gov, for questions about bidding procedures and MBE\WBE\SDVE goals and submittal requirements.
4. The deadline for technical questions was noon on October 23rd, 2024.
5. Changes to, or clarification of, the bid documents are only made as issued in the addenda.
6. All correspondence with respect to this project must include the State of Missouri project number as indicated above.
7. **Current Planholders list available online at:** https://www.oafmdcplanroom.com/projects/2631/plan-holders/h2314-01-hvac-bas-replacement-waverly-regional-youth-center
8. Prospective Bidders contact American Document Solutions, 1400 Forum Blvd Suite 1C, Columbia MO 65201, 573-446-7768 to order official plans and specifications.
9. **Existing building sprinkler and fire alarm systems maintained by JCI.**

ATTACHMENTS:

1. Existing Roof Warranty
2. Section 230130.52 – Existing HVAC Air Distribution System Cleaning
3. Sheet A110 REVISED
4. Sheet M101 REVISED

October 24, 2024
END ADDENDUM NO. 2

RED SHIELD WARRANTY

ROOFING SYSTEM LIMITED WARRANTY
STATE OF MISSOURI

Warranty No: MQ000013 **FBPCO #EC2819** **Square Footage: 21200 s.f.**
Building Owner: STATE OF MISSOURI
Building Identification: WAVERLY YOUTH CENTER #H0601-01
Building Address: 114 WEST KELLING, WAVERLY, MO, 64096
Warranty Period Of: TWENTY (20) Years Beginning on: 02/21/06
Roofing Contractor: WEATHERCRAFT OF CEDAR CITY (02368)

For the warranty period indicated above, Firestone Building Products Company, a Division of Bridgestone/Firestone, Inc., warrants to the Building Owner ("Owner") above that Firestone will, subject to the Terms, Conditions, Limitations, and Definitions set forth below, repair any leak in the Firestone Roofing System ("System").

TERMS, CONDITIONS, LIMITATIONS, AND DEFINITIONS

1. The System is limited to mean the Firestone brand membranes, Firestone brand insulation, Firestone brand metal, and other Firestone brand accessories when installed in accordance with Firestone technical specifications.
2. In the event any leak should occur in the System: (a) The Owner must give written notice to Firestone within thirty (30) days of any occurrence of a leak. By so notifying Firestone, the Owner authorizes Firestone or its designee to investigate the cause of the leak. (b) If upon investigation, Firestone determines that the leak is not excluded under the Terms, Conditions, Limitations and Definitions set forth in this limited warranty, the Owner's sole and exclusive remedy and Firestone's liability will be limited to the repair of the leak. (c) Should the investigation reveal that the leak is excluded under the Terms, Conditions, Limitations and Definitions, the Owner is responsible for payment of the investigation costs. Failure by Owner to pay for these costs shall render this Red Shield Roof System Limited Warranty ("Limited Warranty") null and void. If the cause of the leak is determined by Firestone to be outside of the scope of this Limited Warranty, Firestone will advise the Owner of the type and/or extent of repairs required to be made at the Owner's expense, which, if the Owner properly makes, will permit this Limited Warranty to remain in effect for the unexpired portion of its term. Failure by the Owner to properly make these repairs in a reasonable manner using a Firestone licensed applicator and within a reasonable time shall render this Limited Warranty null and void. (d) Any dispute, controversy or claim between the Owner and Firestone concerning this Limited Warranty shall be settled by mediation. In the event that the Owner and Firestone do not resolve the dispute, controversy or claim in mediation, the Owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Cole County in the State of Missouri or the United States District Court, Western District of Missouri. Each party irrevocably consents to the jurisdiction and venue of the above referenced courts.
3. Firestone shall have no obligation under this Limited Warranty unless and until Firestone and the licensed applicator have been paid in full for all materials, supplies, services, warranty costs and other costs which are included in, or incidental to, the System.
4. Firestone shall have no obligation under this Limited Warranty, or any other liability, now or in the future if a leak or damage is caused by: (a) Natural forces, disasters, or acts of God including, but not limited to, winds in excess of 72 MPH, hurricanes, tomadoes, hail, lightning, earthquakes, atomic radiation, insects, or animals; (b) Any act(s), conduct or omission(s) by any person, or act(s) of war, which damages the System or which impairs the System's ability to resist leaks; (c) Failure by the Owner to use reasonable care in maintaining the System, said maintenance to include, but not limited to those items listed on the reverse side of this Limited Warranty titled "Firestone Roofing Care and Maintenance" (d) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, etc.; (e) Condensation or infiltration of moisture in, through, or around the walls, copings, rooftop hardware or equipment, building structure or underlying or surrounding materials; (f) Any acid, oil, harmful chemical, chemical or physical reaction and the like which comes in contact with the System, which damages the System, or which impairs the System's ability to resist leaks; (g) Alterations or repairs to the System not approved in writing by Firestone; (h) The architecture, engineering, construction or design of the roof, roofing system, or building. Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate; (i) A change in building use or purpose; (j) Deterioration caused by marine salt water atmosphere or by regular spray of either salt or fresh water. (k) Failure to give proper notice as set forth in paragraph 2(a) above.
5. This Limited Warranty is transferable subject to Firestone inspection, written approval, and payment of the current transfer fee.
6. During the term of this Limited Warranty, Firestone, its designated representative or employees shall have free access to the roof during regular business hours. In the event that roof access is limited due to security or other restrictions, Owner shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the System which are due to delays associated with said restrictions. Owner shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, excluding accepted stone ballast or pavers, as necessary to expose the system for inspection and/or repair.
7. Firestone's failure to enforce any of the terms or conditions stated herein shall not be construed as a waiver of such provision or of any other terms and conditions of this Limited Warranty.
8. This Limited Warranty shall be governed and construed in accordance with the laws of the State of Indiana without regard to conflict of laws.

FIRESTONE DOES NOT WARRANT PRODUCTS INCORPORATED OR UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED. FIRESTONE SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION OR PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY FIRESTONE. THIS LIMITED WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES OR GUARANTEES WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS LIMITED WARRANTY SHALL BE THE OWNER'S SOLE AND EXCLUSIVE REMEDY AGAINST FIRESTONE, AND FIRESTONE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS OR THE ROOF DECK. THIS LIMITED WARRANTY CANNOT BE AMENDED, ALTERED OR MODIFIED IN ANY WAY EXCEPT IN WRITING SIGNED BY THE PRESIDENT OF FIRESTONE OR A PERSON TO WHOM HIS AUTHORITY HAS BEEN DELEGATED IN WRITING. NO OTHER PERSON HAS ANY AUTHORITY TO BIND FIRESTONE WITH ANY REPRESENTATION OR WARRANTY WHETHER ORAL OR WRITTEN.

FIRESTONE BUILDING PRODUCTS COMPANY
By: **James Hoff**

Authorized Signature: Jas. V. Hoff
Title: **VP of Quality, Technology & Product Development**

Firestone

BUILDING ENVELOPE CARE AND MAINTENANCE GUIDE

(Recommendations for Buildings with Firestone Red Shield Limited Warranty)

Congratulations on your purchase of a Firestone Roofing System for your building! Your building is a valuable asset and as such should be properly maintained. **All building envelope components require periodic attention to perform as designed and to protect your investment.**

1. The building envelope, including the roof, should be inspected at least twice yearly (in the Spring and Fall), and after any severe storms. Record maintenance procedures as they occur. Log all access times and parties working on the roof.
2. Although Firestone roofing membranes are designed to accommodate moderate levels of standing water, the weight of standing water, ice or snow on a roof may exceed building structural design loads. As a consequence, good roofing practice suggests that water not be allowed to remain on the roof for more than 48 hours after a rainfall. Roofs should have slope to drain and all drain areas should remain clean. Bag and remove all debris from the roof since such debris can be quickly swept into drains by rain. This will allow for proper water run-off and avoid overloading the roof with standing water.
3. The Firestone Roofing System should not be exposed to acids, solvents, greases, oil, fats, chemicals and the like. If the Firestone Roofing System is subject to contact with any such materials, contact Firestone immediately.
4. The Firestone Roofing System is designed to be a waterproofing component -- not a traffic-bearing component -- of the building envelope. If there is to be roof traffic for any reason, contact Firestone or your Firestone Licensed Applicator for the installation of acceptable protective walkways.
5. Although periodic inspection is recommended to assure that building components have not been subjected to unusual forces or conditions, the Firestone Roofing System components do not require maintenance under normal service in order to perform as designed or to keep this Limited Warranty in effect. Surfacings, such as coatings, are sometimes applied to roof membranes for a number of reasons. These surfacings are not covered under the terms of this limited warranty, although they may be covered under a separate agreement.
   a) The application of an approved liquid coating, such as Firestone's Acrylic Coating System for Asphalt or Aluminum Roof Coating to smooth surfaced APP membranes provides additional protection from the environment. If this coating is not applied as part of the initial roofing installation, it should be applied within the first five years after the roof is installed to help protect the membrane from surface cracking inherent in such asphalt products. In addition, this coating should be maintained as needed to recover any areas of the coating that have blistered, peeled or worn through.
   b) Granular surfaced APP and SBS membranes do not normally require surface maintenance other than periodic inspection for contaminants (See Item 3.) or damage. If areas of granular loss are discovered during inspection, new granules should be broadcast into hot asphalt or emulsion to protect the surface of the membrane. The application of an approved liquid coating, such as Firestone's Acrylic Coating System for Asphalt or Aluminum Roof Coating to granular surfaced APP or SBS membranes does provide additional protection from the environment. If this coating is not applied as part of the initial roofing installation, it can be applied later to help protect the membrane. If installed, this coating should be maintained as needed to recover any areas of the coating that have blistered, peeled or worn through.
   c) Gravel surfaced BUR membranes do not normally require surface maintenance other than periodic inspection for contaminants (See Item 3) or damage. If areas of gravel loss are discovered during inspection, gravel must be reinstalled into hot asphalt to protect the surface of the membrane. Smooth surface BUR membranes must be kept coated using original coating materials for the life of this warranty.
   d) EPDM and other single-ply roofing membranes do not normally require surface maintenance other than periodic inspection for contaminants (See Item 3.) or damage. Occasionally, approved liquid roof coatings, such as Firestone AcryliTop, are applied to the surface of EPDM membranes in order to provide a lighter surface color. Such coatings do not need to be maintained to assure the performance of the underlying EPDM roof membrane, but some maintenance and re-coating may be necessary in order to maintain a uniform surface appearance.
6. All counterflashing, metal work, drains, skylights, equipment curb and supports, and any other rooftop accessories functioning in conjunction with the Firestone Roofing System must be properly maintained at all times.
7. If any additional equipment is to be installed on your roof (e.g. HVAC units, TV antennas, etc.), contact Firestone, in writing, for approval before proceeding.
8. Should there be an addition to the building, requiring tie-in to the existing Firestone Roofing System, contact Firestone before proceeding to ensure the tie-in is in accordance with Firestone specifications.
9. Should you have a problem:
   a) Check for the obvious: clogged roof drains, loose counterflashings, broken skylights, open grills or vents, broken water pipes.
   b) Note conditions resulting in leakage. Heavy or light rain, wind direction, temperature and time of day that the leak occurs are all-important clues to tracing roof leaks. Note whether the leak stops shortly after each rain or continues to drip until the roof is dry. If you are prepared with the facts, the diagnosis and repair of the leak can proceed more rapidly.
   c) Contact Firestone Warranty Claims at 1-800-830-5612 immediately...but please don't call until you are reasonably sure that the Firestone Roofing System is the cause of the leak.

Firestone feels that the preceding recommendations will assist you, the building owner, in maintaining your building for many years. Remember, your building is an investment. To maximize your return on this investment, appropriate care is essential.

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NOW THAT YOU HAVE A NEW FIRESTONE ROOFING SYSTEM...

Congratulations on your purchase of a Firestone Roofing System! Your new roof is a valuable asset and as such should be properly maintained. All components of the building envelope require periodic maintenance to perform as designed. "Building Envelope Care And Maintenance Guide" printed on the back of your Firestone Limited Warranty contain a number of important items to assist you in maintaining a watertight building for many years. These maintenance guidelines recommend that the building envelope be inspected at least twice yearly. Although this inspection can be performed by any qualified person selected by you, **Firestone recommends that at least one inspection every year be conducted by the Firestone Licensed Applicator who installed your roof.**

Whenever an inspection of the building is performed, Firestone recommends that the following items be included:

1 ROOF CONDITIONS REQUIRING PERIODIC INSPECTION:

Periodic inspection of the following items is very important to assure that the Firestone Roofing System not been exposed to conditions not covered by Firestone's Limited Warranty:

a. **Roof Traffic & Walkways:** The Firestone Roofing System is designed to be a waterproofing component - not a traffic bearing component of the building envelope. As stated in Firestone's System Design Instructions for all Firestone Roofing Systems, "Walkways help protect the membrane from damage due to necessary roof-top service traffic." Please note that walkways should be maintained at all roof access points, around all mechanical equipment which requires maintenance and at all areas where roof traffic more frequent than once a month is anticipated. **If, because of traffic requirements, walkways need to be installed on your roof, contact your Firestone Licensed Applicator before proceeding.**

b. **Discharges:** All components of the Firestone roof system must be protected from discharges, such as petroleum products, greases, oils and fats, acids and the like. If the building will have any such discharges, please contact Firestone for suggested methods of protection. **If, because of the presence of chemical discharges, protection measures are recommended, contact your Firestone Licensed Applicator before proceeding.**

c. **Ponding Water:** Proper maintenance and good roofing practice suggests that ponded water (defined as standing water on the roof forty-eight (48) hours after it stops raining) should not be allowed on the roof. Roofs should have slope to drain and all drain areas should remain clean. **If ponded water areas are observed on the roof that cannot be corrected by periodic cleaning of drain areas, contact your Firestone Licensed Applicator for suggestions.**

d. **Storms:** The building envelope should be inspected after any severe storm, especially after any storm that involves high sustained winds, heavy wind gusts or tornado-like conditions. All roof surfaces should be inspected for damage caused by wind-blown debris. The roof also should be inspected after any hail or ice storm which could have damaged the roofing system. **If storm-related damage to the roof system is observed, contact your Firestone Licensed Applicator before proceeding.**

e. **Moisture Infiltration:** It is very important to inspect the roofing system for moisture infiltration from sources excluded by Firestone's Limited Warranty. These sources can include but are not limited to:

1. Latent moisture in a pre-existing roofing system or roof insulation remaining beneath the Firestone Roofing System.
2. Moisture infiltration in or through building walls, copings, mortar joints and roof-top equipment.
3. Condensation of water vapor within the roofing system due to temperature and humidity differentials.

Because inspection for moisture infiltration requires professional roofing experience, Firestone recommends that this inspection be performed by a Firestone Licensed Applicator at least once a year.

2 NON-FIRESTONE MATERIALS:

In some instances, non-Firestone supplied materials are used in conjunction with Firestone Roofing Systems. These materials may include, but are not limited to the following items:

a. Locally-fabricated sheet metal flashings.
b. Non-Firestone sealants at roof terminations.
c. Non-Firestone roof insulations.
d. Non-Firestone insulation fastening devices, including but not limited to roofing screws, insulation plates, construction adhesives and roofing asphalt.
e. Preservative-treated wood nailers and blocking.
f. Roof drains and drain inserts.
g. Pre-fabricated roof curbs.
h. Concrete walkway or ballast pavers.
i. Stone ballast.
j. Non-Firestone Roof coatings.

Because such items are not warranted by Firestone, it is important to establish an ongoing inspection and maintenance program to assure that the performance of non-Firestone materials does not adversely affect the weathertight integrity of the Firestone roofing system. **Sheet metal items** should be checked for weathertightness and re-anchored/recaulked as needed. **Nailers and blocking** should be checked for soundness, and replaced or re-secured if necessary. **Roof drains and drain inserts** should be cleared of any debris. **Sealants** should be inspected for shrinking or cracking and replaced as required. The integrity of **roof insulation and insulation attachments** should be verified. **Walkway pavers** should be checked for cracking or splitting and replaced if necessary. **Ballast stone** should be checked for deterioration due to freeze/thaw conditions. In addition, all ballasted roofs should be inspected for localized wind displacement of the ballast, especially along perimeter roof areas. In the event ballast displacement is observed, the ballast should be carefully re-dispersed uniformly and the addition of larger ballast stones should be considered.

3 FIRESTONE PRODUCTS REQUIRING PERIODIC INSPECTION:

Although Firestone products do not necessarily require periodic maintenance to assure long-term performance, periodic inspection is very important to assure that these products have not been exposed to conditions excluded by Firestone's Limited Warranty:

a. The **Firestone Roofing Membrane** should be inspected for tears or punctures caused by wind storms, falling objects, roof traffic and the like. If the Firestone membrane is supplied with a factory applied coating, such as roofing granules, the coating should be inspected for any discontinuities caused by abrasion from wind, roof traffic or other sources. **Tears, punctures and abrasions to the membrane must be repaired by a Licensed Firestone Applicator using Firestone specified repair procedures.**

   In addition, the membrane should be inspected for any contamination from discharges, such as petroleum products, greases, oils and fats, acids and the like. If any such discharges are observed on the membrane, please contact Firestone for suggested methods of protection. If, because of the presence of chemical discharges, protection measures are recommended by Firestone, contact your Firestone Licensed Applicator before proceeding.

b. Firestone Wall Flashings also should be inspected for tears, punctures, abrasion and contamination from discharges, following the same procedures as for the Firestone Roof Membrane.

4 INSPECTIONS AND SAFETY:

Inspection of any building envelope should be undertaken only by qualified persons who are familiar with safe practices, including all applicable occupational health and safety regulations relating to roofing and construction. **Firestone recommends that all roof inspections be performed by a Firestone Licensed Applicator or a similar roofing professional.**

5 ARRANGING FOR PERIODIC INSPECTIONS:

Please note that the cost of periodic inspections, either by your Firestone Licensed Applicator or by any other roofing professional, are not included in the cost of your Limited Warranty. Firestone recommends that you contact your Firestone Licensed Applicator to obtain a proposal for inspection and maintenance services.

Firestone feels that the preceding recommendations will help you maintain a watertight building for many years. To maximize your return on your building investment, appropriate care is essential. Whenever you have questions concerning your roofing system, do not hesitate to contact your Firestone Licensed Applicator or your local Firestone Sales Representative.

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04/03 – Item #828 (Replaces 09/02)

SECTION 230130.52 - EXISTING HVAC AIR DISTRIBUTION SYSTEM CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cleaning existing HVAC air-distribution equipment, ducts, plenums, and system components.

B. Related Requirements:

1. Section 233113.00 "Metal Ducts" for cleaning newly installed metal ducts.
2. Section 233116.00 "Nonmetal Ducts" for cleaning newly installed nonmetal ducts.
3. Section 230593.00 "Testing, Adjusting, Balancing for HVAC" for system flow documentation before cleaning and balancing and following cleaning and restoration.
4. Section 233300.00 "Air Duct Accessories" for restoration of opened ducts and plenums with access doors.

1.3 DEFINITIONS

A. ACAC: American Council for Accredited Certification.

B. AIHA-LAP: American Industrial Hygiene Association Lab Accreditation Program

C. ASCS: Air systems cleaning specialist.

D. CESB: Council of Engineering and Scientific Specialty Boards.

E. CMI: Certified Microbial Investigator.

F. CMC: Certified Microbial Consultant.

G. CMR: Certified Microbial Remediator.

H. CMRS: Certified Microbial Remediation Supervisor.

I. EMLAP: Environmental Microbiology Laboratory Accreditation Program.

J. IEP: Indoor Environmental Professional.

K. IICRC: Institute of Inspection, Cleaning, and Restoration Certification.

L. NADCA: National Air Duct Cleaners Association.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Cleaning agents
2. Antimicrobial surface treatments.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data:

1. For an ASCS.
2. For an IEP.
3. For a CMR and a CMRS.

B. Field Quality-Control Reports:

1. Project's existing conditions.
2. Evaluations and recommendations, including cleanliness verification.
3. Strategies and procedures plan.

1.6 CLOSEOUT SUBMITTALS

A. Post-Project report.

1.7 QUALITY ASSURANCE

A. ASCS Qualifications: **A certified member of NADCA**.

1. Certification: Employ **an ASCS certified by NADCA on a full-time basis**.
2. Supervisor Qualifications: Certified **as an ASCS by NADCA**.

B. IEP Qualifications: CMI who is certified by ACAC and accredited by CESB.

C. IEP Qualifications: CMC who is certified by ACAC and accredited by CESB.

D. CMR Qualifications: Certified by ACAC and accredited by CESB.

E. CMRS Qualifications: Certified by ACAC and accredited by CESB.

F. UL Compliance: Comply with UL 181 and UL 181A for fibrous-glass ducts.

G. Cleaning Conference: Conduct conference at **Project site**.

1. Review methods and procedures related to HVAC air-distribution system cleaning, including, but not limited to, review of the cleaning strategies and procedures plan.

PART 2 - PRODUCTS

2.1 HVAC CLEANING AGENTS

A. Description:

1. Formulated for each specific soiled coil condition that needs remedy.
2. Will not corrode or tarnish aluminum, copper, or other metals.

2.2 ANTIMICROBIAL SURFACE TREATMENT

A. Description: Specific product selected shall be as recommended by the IEP based on the specific antimicrobial needs of the specific Project conditions.

1. Formulated to kill and inhibit growth of microorganisms.
2. EPA-registered for use in HVAC systems and for the specific application in which it will be used.
3. Have no residual action after drying, with zero VOC off-gassing.
4. OSHA compliant.
5. Treatment shall dry clear to allow continued visual observation of the treated surface.

PART 3 - EXECUTION

3.1 PREPARATION

A. Inspect HVAC air-distribution equipment, ducts, plenums, and system components to determine appropriate methods, tools, and equipment required for performance of the Work.

B. Perform "Project Evaluation and Recommendation" according to NADCA ACR.

C. Cleaning Plan: Prepare a written plan for air-distribution system cleaning that includes strategies and step-by-step procedures. At a minimum, include the following:

1. Supervisor contact information.
2. Work schedule, including location, times, and impact on occupied areas.
3. Methods and materials planned for each HVAC component type.
4. Required support from other trades.
5. Equipment and material storage requirements.
6. Exhaust equipment setup locations.

D. Existing Conditions Report: Prepare a written report that documents existing conditions of the systems and equipment. Include documentation of existing conditions, including inspection results, photo images, laboratory results, and interpretations of the laboratory results by an IEP.

1. Prepare written report listing conditions detrimental to performance of the Work.

E. Proceed with work only after conditions detrimental to performance of the Work have been corrected.

F. Use the existing service openings, as required for proper cleaning, at various points of the HVAC system for physical and mechanical entry and for inspection.

G. Comply with NADCA ACR, "Guidelines for Constructing Service Openings in HVAC Systems" Section.

H. Mark the position of manual volume dampers and air-directional mechanical devices inside the system prior to cleaning.

3.2 CLEANING

A. Comply with NADCA ACR, including items identified as "recommended," "advised," and "suggested."

B. Perform electrical lockout and tagout according to Owner's standards or authorities having jurisdiction.

C. Remove non-adhered substances and deposits from within the HVAC system.

D. Complete cleaning in accordance with Owner-Contractor agreed-upon scope of work.

E. Systems and Components to Be Cleaned: All air-moving and -distribution equipment.

F. Systems and Components to Be Cleaned:

1. Air devices for supply and return air.
2. Air-terminal units and connections.

    a. VAV boxes.
    b. Flexible connectors.

3. Ductwork:

    a. Supply-air ducts, including turning vanes and reheat coils, to the air-handling unit.
    b. Return-air ducts to the air-handling unit.
    c. Transfer ducts.

4. Casings.
5. Duct-mounted coils.

6. Air-Handling Units:

    a. Interior surfaces of the unit casing.
    b. Coil surfaces compartment.
    c. Condensate drain pans.
    d. Fans, fan blades, and fan housings.
7. Filters and filter housings.

G. Collect debris removed during cleaning. Ensure that debris is not dispersed outside the HVAC system during the cleaning process.

H. Particulate Collection:

1. For particulate collection equipment, include adequate filtration to contain debris removed. Locate equipment downwind and away from all air intakes and other points of entry into the building.
2. HEPA filtration with 99.97 percent collection efficiency for particles sized 0.3 micrometer or larger shall be used where the particulate collection equipment is exhausting inside the building,

I. Control odors and mist vapors during the cleaning and restoration process.

J. Mark the position of manual volume dampers and air-directional mechanical devices inside the system prior to cleaning. Restore them to their marked position on completion of cleaning.

K. System components shall be cleaned so that all HVAC system components are visibly clean. On completion, all components must be returned to those settings recorded just prior to cleaning operations.

L. Clean all air-distribution devices, registers, grilles, and diffusers.

M. Clean non-adhered substance deposits according to NADCA ACR and the following:

1. Clean air-handling units, airstream surfaces, components, condensate collectors, and drains.
2. Ensure that a suitable operative drainage system is in place prior to beginning wash-down procedures.
3. Clean evaporator coils, reheat coils, and other airstream components.

N. Air-Distribution Systems:

1. Create service openings in the HVAC system as necessary to accommodate cleaning.
2. Mechanically clean air-distribution systems specified to remove all visible contaminants, so that the systems are capable of passing the HVAC System Cleanliness Tests (see NADCA ACR).

O. Debris removed from the HVAC system shall be disposed of according to applicable Federal, state, and local requirements.

P. Mechanical Cleaning Methodology:

1. Source-Removal Cleaning Methods: The HVAC system shall be cleaned using source-removal mechanical cleaning methods designed to extract contaminants from within the HVAC system and to safely remove these contaminants from the facility. No cleaning method, or combination of methods, shall be used that could potentially damage components of the HVAC system or negatively alter the integrity of the system.

    a. Use continuously operating vacuum-collection devices to keep each section being cleaned under negative pressure.
    b. Cleaning methods that require mechanical agitation devices to dislodge debris that is adhered to interior surfaces of HVAC system components shall be equipped to safely remove these devices. Cleaning methods shall not damage the integrity of HVAC system components or damage porous surface materials, such as duct and plenum liners.

2. Cleaning Mineral-Fiber Insulation Components:

    a. Fibrous-glass thermal or acoustical insulation elements present in equipment or ductwork shall be thoroughly cleaned with HEPA vacuuming equipment while the HVAC system is under constant negative pressure and shall not be permitted to get wet according to NADCA ACR.
    b. Cleaning methods used shall not cause damage to fibrous-glass components and will render the system capable of passing the HVAC System Cleanliness Tests (see NADCA ACR).
    c. Fibrous materials that become wet shall be discarded and replaced.

Q. Coil Cleaning:

1. See NADCA ACR, "Coil Surface Cleaning" Section. Type 1, or Type 1 and Type 2, cleaning methods shall be used to render the coil visibly clean and capable of passing coil cleaning verification.
2. Coil drain pans shall be subject to NADCA ACR, "Non-Porous Surfaces Cleaning Verification." Ensure that condensate drain pans are operational.
3. Electric-resistance coils shall be de-energized, locked out, and tagged before cleaning.
4. Cleaning methods shall not cause any appreciable damage to, cause displacement of, inhibit heat transfer, or cause erosion of the coil surface or fins, and shall comply with coil manufacturer's written recommendations.
5. Rinse thoroughly with clean water to remove any latent residues.

R. Application of Antimicrobial Treatment:

1. Apply antimicrobial agents and coatings if active fungal growth is determined by the IEP to be at Condition 2 or Condition 3 status according to IICRC S520, as analyzed by a laboratory **accredited by AIHA-LAP with an EMLAP certificate**, and with results interpreted by an IEP. Apply antimicrobial agents and coatings according to manufacturer's written recommendations and EPA registration listing after the removal of surface deposits and debris.
2. Apply antimicrobial treatments and coatings after the system is rendered clean.

3. Apply antimicrobial agents and coatings directly onto surfaces of interior ductwork.
4. Microbial remediation shall be performed by a **qualified CMR and CMRS**.

3.3 CLEANLINESS VERIFICATION

A. Verify cleanliness according to NADCA ACR, "Verification of HVAC System Cleanliness" Section.

B. Verify HVAC system cleanliness after mechanical cleaning and before applying any treatment or introducing any treatment-related substance to the HVAC system, including biocidal agents and coatings.

C. Surface-Cleaning Verification: Perform visual inspection for cleanliness. If no contaminants are evident through visual inspection, the HVAC system shall be considered clean. If visible contaminants are evident through visual inspection, those portions of the system where contaminants are visible shall be re-cleaned and subjected to re-inspection for cleanliness.

D. Verification of Coil Cleaning: Coil will be considered clean if the coil is free of foreign matter and chemical residue, based on a thorough visual inspection.

E. Additional Verification:

1. Perform surface comparison testing or NADCA vacuum test.
2. Conduct NADCA vacuum gravimetric test analysis for nonporous surfaces.

F. Prepare a written cleanliness verification report. At a minimum, include the following:

1. Written documentation of the success of the cleaning.
2. Site inspection reports, initialed by supervisor, including notation on areas of inspection, as verified through visual inspection.
3. Surface comparison test results if required.
4. Gravimetric analysis (nonporous surfaces only).
5. System areas found to be damaged.

G. Photographic Documentation: Comply with requirements in Section 013233 "Photographic Documentation."

3.4 RESTORATION

A. Restore and repair HVAC air-distribution equipment, ducts, plenums, and components according to NADCA ACR, "Restoration and Repair of Mechanical Systems" Section.

B. Restore service openings capable of future reopening.

C. Reseal fibrous-glass ducts. Comply with requirements in Section 233116 "Nonmetal Ducts."

D. Replace fibrous-glass materials that cannot be restored by cleaning or resurfacing. Comply with requirements in Section 233113 "Metal Ducts" and Section 233116 "Nonmetal Ducts."

E. Replace damaged insulation according to Section 230713 "Duct Insulation."

F. Ensure that closures do not hinder or alter airflow.

G. New closure materials, including insulation, shall match opened materials and shall have removable closure panels fitted with gaskets and fasteners.

H. Restore manual volume dampers and air-directional mechanical devices inside the system to their marked position on completion of cleaning.

I. Measure air flows through air-distribution system.

J. Measure static-pressure differential across each coil.

3.5 PROJECT CLOSEOUT

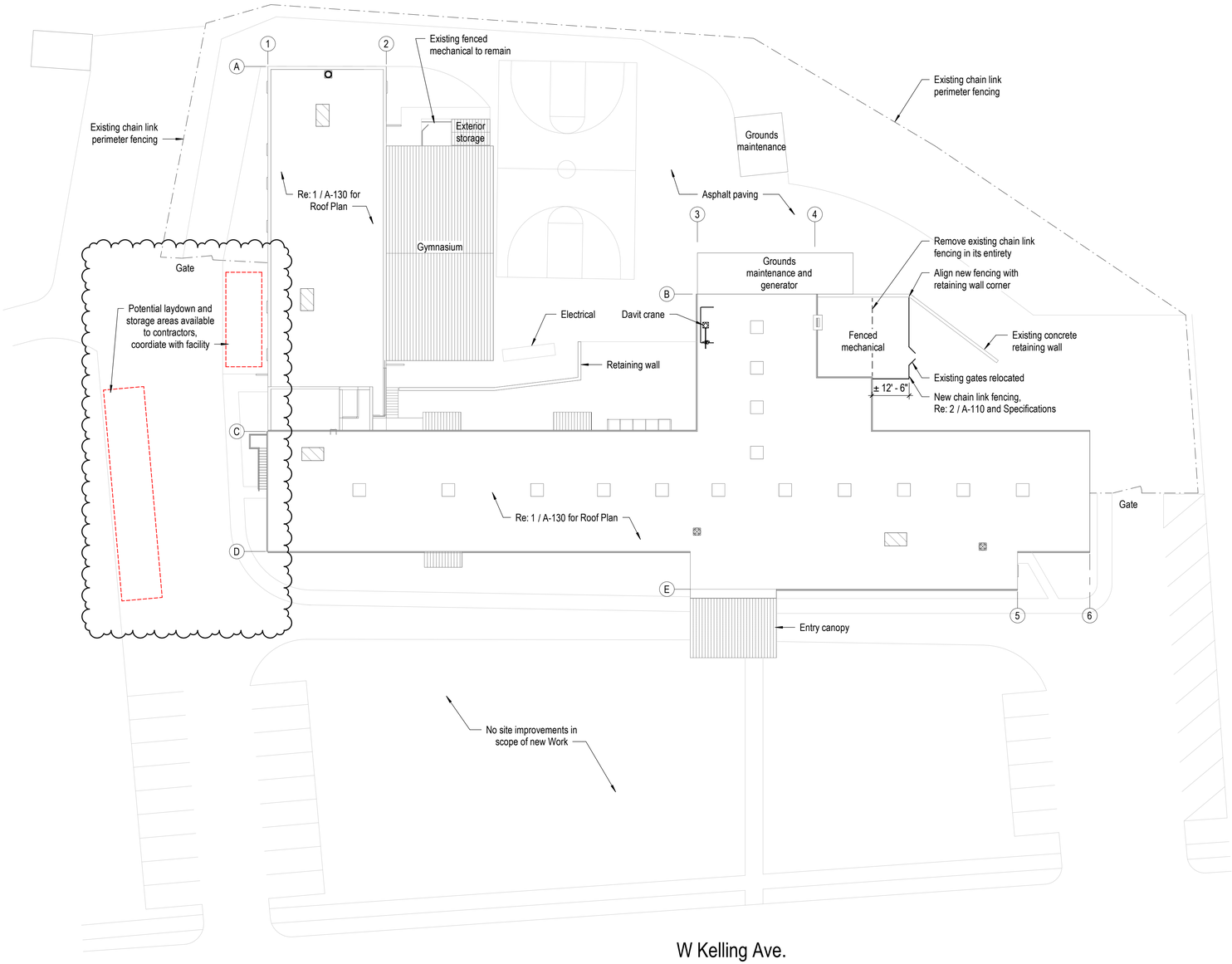
A. Post-Project Report:

1. Post-cleaning laboratory results if any.
2. Post-cleaning photo images.
3. Post-cleaning verification summary.

B. Drawings:

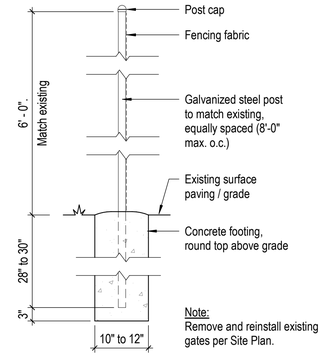
1. Deviations of existing system from Owner's record drawings.
2. Location of service openings.

END OF SECTION 230130.52



1 Site Plan
1" = 20'-0"
0 5' 10' 20'

NORTH TRUE NORTH



2 Fence Detail
3/4" = 1'-0"
0 4" 8" 1'4"

Confidentiality Notice:
Contractors are hereby notified that, in accordance with privacy policies and regulations, no photography or videography of students at the facility is permitted. This restriction applies to all areas within the premises, including but not limited to classrooms, hallways, common areas, and outdoor spaces.

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
JOANNA BEVER BUTLER
NUMBER A-2000152258
REGISTERED ARCHITECT
9.13.2024

Unless a Professional Seal with signature And date is affixed, this document is Preliminary and is not intended for construction, recording purposes or implementation.

GIBBENS DRAKE SCOTT, INC.
Consulting Engineers
9201 E. 63rd Street, Suite 100
Raytown, Missouri 64133
(816) 358-1790
Missouri State Certificate of Authority #000816

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

WAVERLY REGIONAL YOUTH CENTER

HVAC & BAS REPLACEMENT

WAVERLY REGIONAL YOUTH CENTER
WAVERLY, MO

PROJECT # H2314-01
SITE # 7707
FACILITY # 8877707003

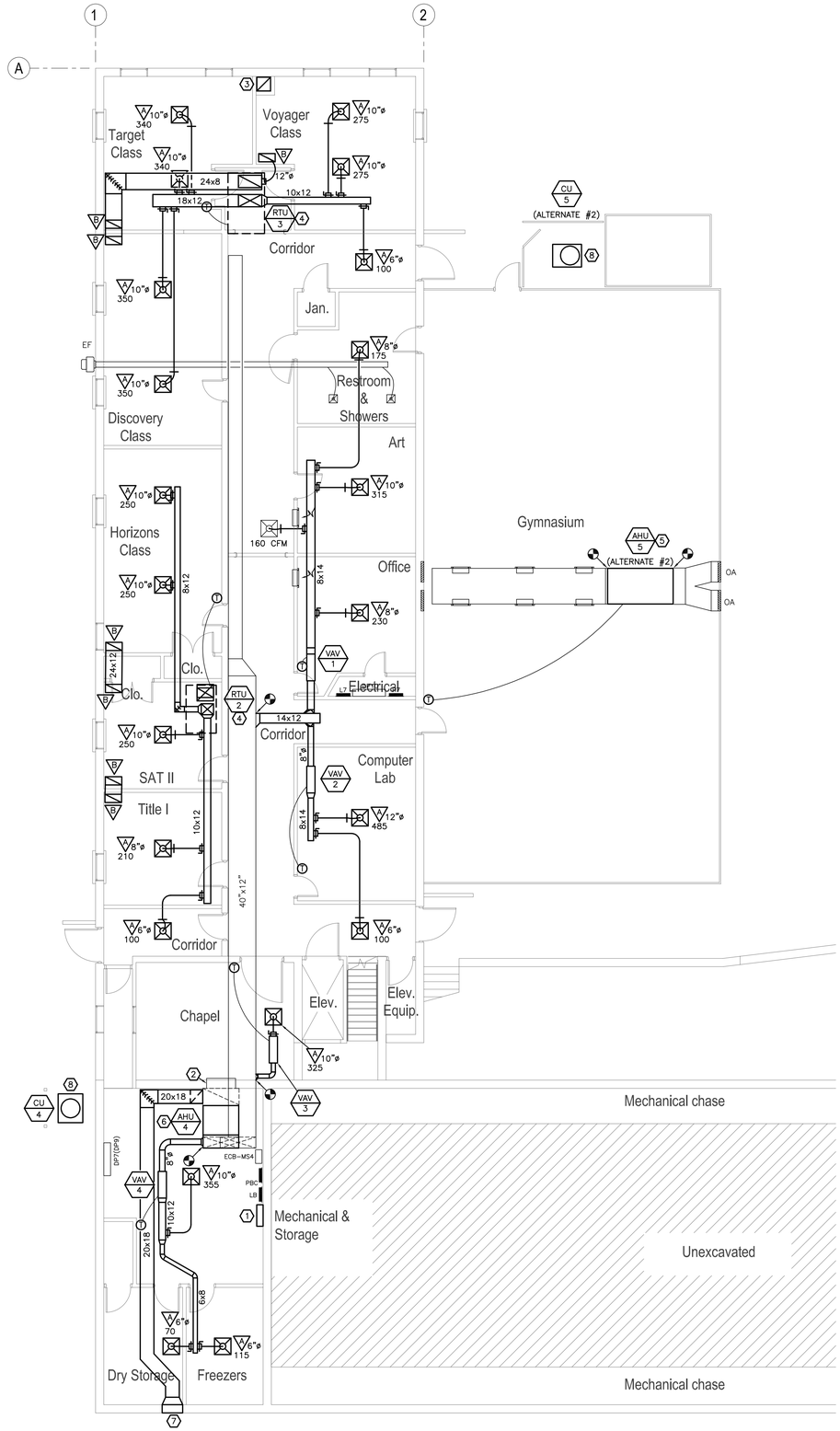
REVISION:
DATE:
REVISION:
DATE:
REVISION: Addendum #2
DATE: 10/22/2024
ISSUE DATE: 9/13/2024
BID PACKAGE

CAD DWG FILE: A-110.dwg
DRAWN BY: JKy
CHECKED BY: -
DESIGNED BY: GW&

SHEET TITLE:
ARCHITECTURAL SITE PLAN, DETAILS

SHEET NUMBER:
A-110

3 OF 44 SHEETS
9/13/2024



LOWER LEVEL – MECHANICAL PLAN

SCALE 1/8"=1'-0"

NORTH

MECHANICAL GENERAL NOTES

A. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.

B. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCT RISES AND DROPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.

C. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

D. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY, INCLUDING APPLICABLE SECTIONS OF NFPA, OSHA, INTERNATIONAL BUILDING CODES, OR ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.

E. EXISTING DUCTWORK TO BE CLEANED, TESTED FOR LEAKAGE, REPAIRED/REPLACED AS NECESSARY, AND INSULATED.

F. COORDINATE ALL THERMOSTAT LOCATIONS WITH OWNER. PROVIDE LOCKING COVERS ON ALL THERMOSTATS. THERMOSTATS SHALL NOT HAVE A DISPLAY.

G. PROVIDE ACCESS DOORS FOR ALL VAV BOXES LOCATED ABOVE HARD CEILINGS. PROVIDE REMOTE DAMPER OPERATORS FOR ALL BALANCING DAMPERS LOCATED ABOVE HARD CEILINGS.

H. THE EXISTING CONDITIONS REPRESENTED IN THIS DRAWING SET ARE A REPRESENTATION OF THE INFORMATION GATHERED THROUGH SITE INVESTIGATION, INTERVIEWS, AND ENGINEERING JUDGEMENT. THE DESIGN TEAM PROVIDES NEITHER GUARANTEE NOR WARRANTY AS TO THE ACCURACY OF THE EXISTING CONDITONS REPRESENTED HEREIN. CONTRACTOR FIELD INVESTIGATION WILL BE REQUIRED.

MECHANICAL PLAN NOTES

1. BMS PANEL.
2. PROVIDE ACCESS DOOR AT RETURN AIR PENETRATION INTO CRAWLSPACE CHASE. SEAL PENETRATION AIR-TIGHT.
3. 20"X20" RELIEF DUCT DOWN TO CHASE BELOW AND UP TO RELIEF HOOD ON ROOF WITH CONTROL DAMPER.
4. CONDENSATE DRAIN PIPING FOR ROOFTOP UNIT SHALL DISCHARGE TO ROOF.
5. SUPPORT NEW AHU FROM STRUCTURE ABOVE. AHU CONDENSATE DRAIN PIPING SHALL CONNECT TO EXISTING CONDENSATE DRAIN PIPING.
6. EXTEND AHU CONDENSATE DRAIN PIPING TO NEAREST FLOOR DRAIN.
7. 30x30 OUTSIDE AIR LOUVER.
8. SET CONDENSING UNIT LEVEL ON EXISTING CONCRETE PAD. ROUTE REFRIGERANT PIPING TO AIR HANDLING UNIT. SIZE, SLOPE AND TRAP REFRIGERANT PIPING PER MANUFACTURER'S REQUIREMENTS. SEAL WALL PENETRATIONS AIR-TIGHT.

MISCELLANEOUS NOTES

CONTRACTOR IS RESPONSIBLE FOR PATCHING AND REPAIR OF ANY DAMAGED ITEMS OR SURFACES RESULTING FROM THEIR WORK ACTIVITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, DAMAGES INCURRED DURING DEMOLITION, CONSTRUCTION, INSTALLATION, OR ANY OTHER RELATED TASKS. THE CONTRACTOR IS EXPECTED TO PROMPTLY IDENTIFY AND ADDRESS ANY DAMAGES, ENSURING THAT THE AFFECTED AREAS ARE RESTORED TO THEIR ORIGINAL CONDITION OAT THEIR OWN EXPENSE. IT IS IMPERATIVE THAT ALL NECESSARY REPAIRS ARE COMPLETED TO THE SATISFACTION OF THE FMDC PROJECT MANAGER.

FIRE CAULK AROUND THE PERIMETER OF ALL NEW FLOOR, CEILING, AND WALL PENETRATIONS RESULTING FROM THIS NEW WORK, REGARDLESS OF FLOOR/WALL/CEILING/ROOF ASSEMBLY REQUIREMENT. PATCH OPEN AREAS IN EXISTING PLASTER CEILINGS WITHIN CEILING AREAS EXPOSED BY THIS NEW WORK. REFERENCE ARCHITECTURAL DRAWINGS FOR PATCHING DETAILS.

CONTRACTOR SHALL PROVIDE DAILY CLEANING, VANDAL PROTECTION, AND BARRIER PROTECTION BETWEEN WORK AND NON-WORK AREAS.

CONFIDENTIALITY NOTICE: BUILDING OCCUPANT PRIVACY IS PARAMOUNT. NO PHOTOGRAPHY, VIDEOGRAPHY, OR COMMUNICATION WITH BUILDING OCCUPANTS IS PERMITTED. THIS RESTRICTION APPLIES TO ALL AREAS WITHIN THE PREMISES, INCLUDING BUT NOT LIMITED TO CLASSROOMS, HALLWAYS, COMMON AREAS, AND OUTDOOR SPACES.

CONTROLS NOTES

ALL ACCESS PERMISSIONS AND PASSWORD PROTECTIONS SHALL BE PROVIDED TO OWNER FOR FULL ACCESS AND CONTROL DURING PROJECT CLOSEOUT AND/OR OWNER TRAINING.

THE CONTROLS CONTRACTOR SHALL COORDINATE WITH ALL PROJECT COMPONENT & EQUIPMENT PROVIDERS SUCH THAT ALL AVAILABLE COMMUNICATION POINTS ARE INTEGRATED TO THE BAS. THE CONTROLS CONTRACTOR SHALL SUBMIT FOR ENGINEER AND OWNER APPROVAL POINTS BETWEEN EQUIPMENT/COMPONENTS AND THE BAS. THIS SUBMITTAL REVIEW AND APPROVAL SHALL OCCUR AHEAD OF EQUIPMENT, COMPONENT, AND ANY CONTROLS PROCUREMENT.

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI TODD H. ATKINS NUMBER PE-2014039891 PROFESSIONAL ENGINEER

10-24-2024

TODD H. ATKINS
LICENSE # E-2014039891
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

GIBBENS DRAKE SCOTT, INC.
Consulting Engineers
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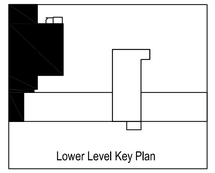
Missouri State Certificate of Authority #000816



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CAD DWG FILE: M-101
DRAWN BY: AAC
CHECKED BY: THA
DESIGNED BY: GDS

SHEET TITLE:

LOWER LEVEL MECHANICAL PLAN

SHEET NUMBER:

M-101

22 OF 44 SHEETS
09/13/24